EXPERIMENT NO. 5

TITLE: Electronic Modelling & Simulation of half wave/centre tapped/bridge rectifier

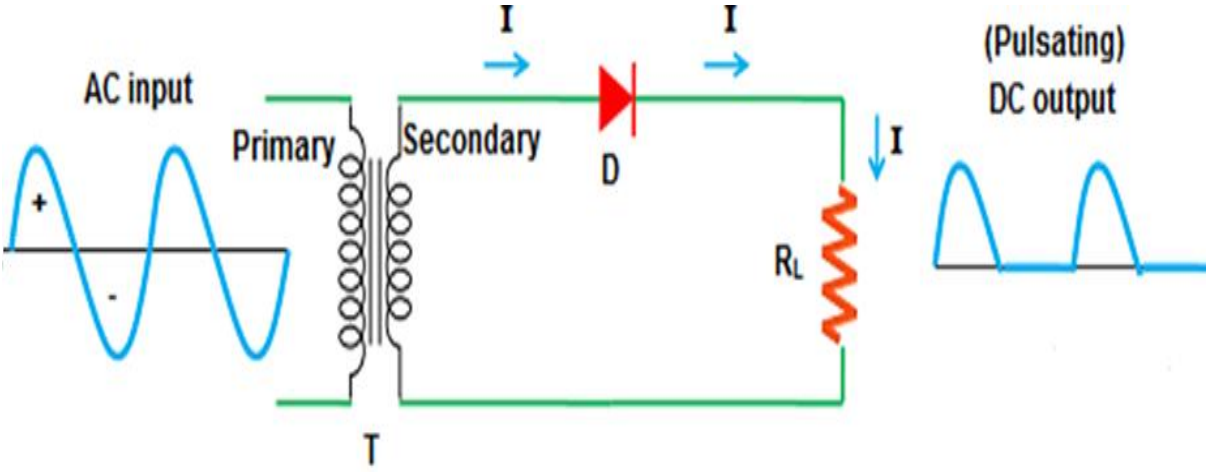
AIM:

1. To model, design and simulate the half wave/centre tapped/bridge rectifier using Multisim simulation software/tool.
2. To display the input and output waveform on the oscilloscope

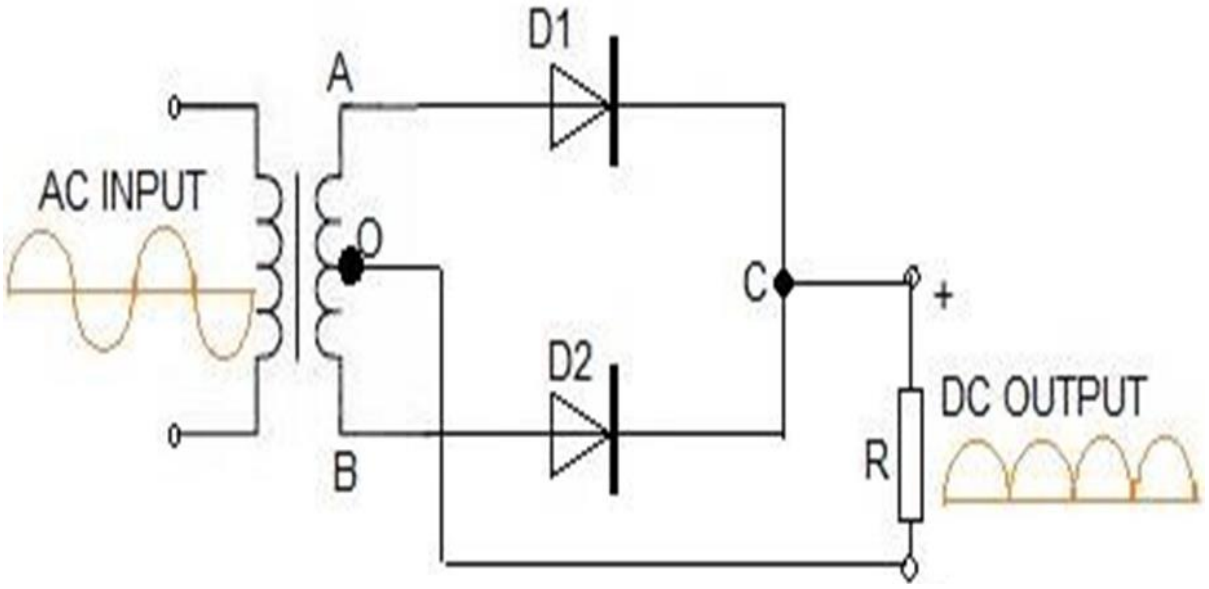
APPARATUS: Multisim software, power source, transformer, half wave, center tapped and bridge rectifier, load resistor.

THEORY:

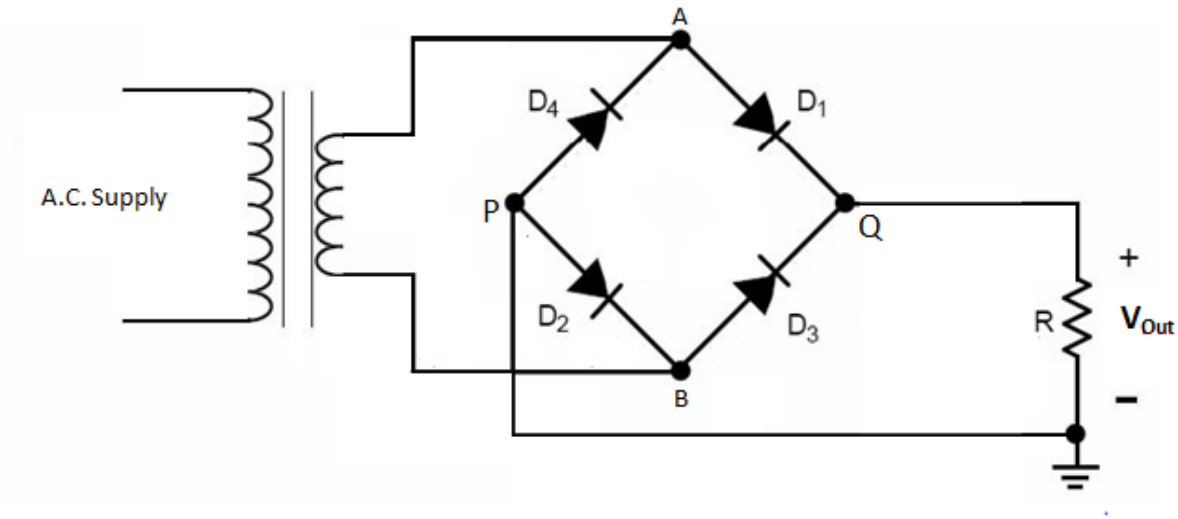
Half Wave Rectifier: Output waveform is obtained only for half cycle of the input signal. It consists of a single PN junction diode connected to a load resistance.



Full Wave Centre Tapped Rectifier: Output waveform is obtained for full cycle of input signal. It consists of two diodes connected to a load resistance.

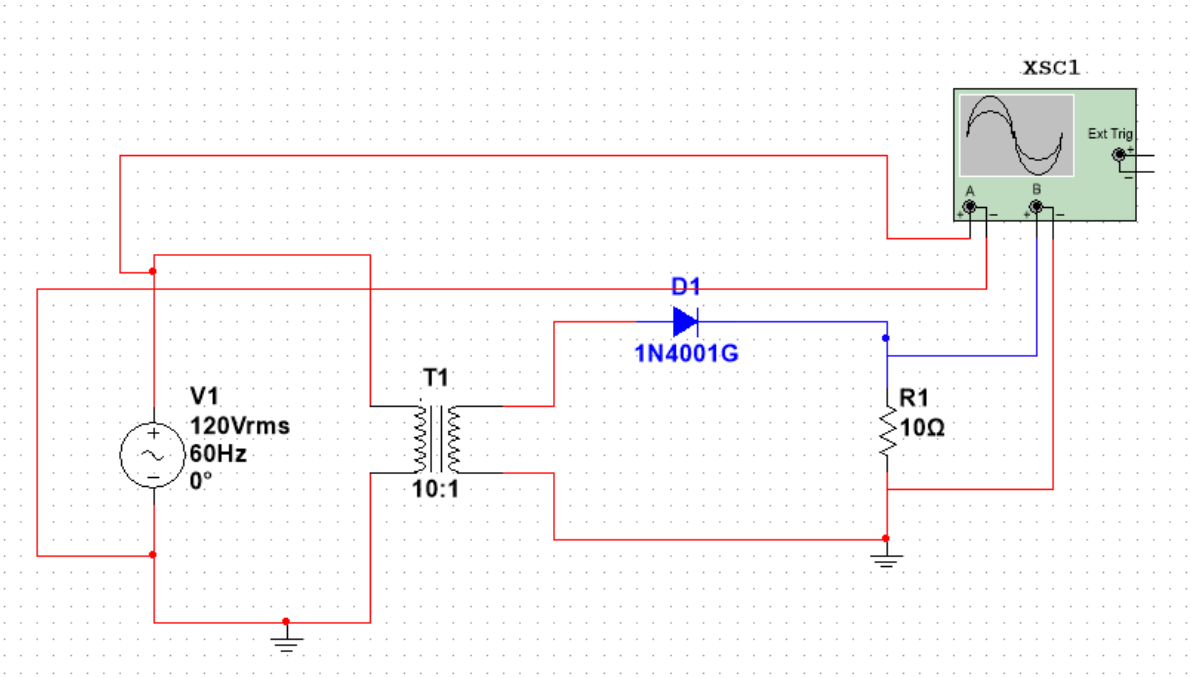


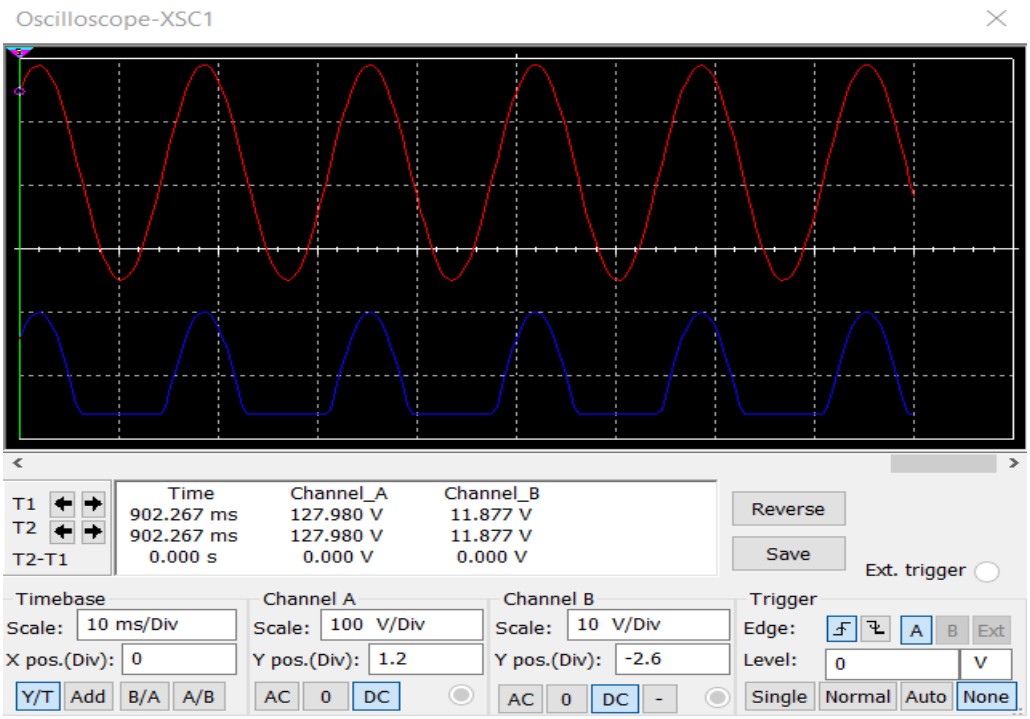
Full Wave Bridge Rectifier: The output waveform is obtained for full cycle of input signal. It consists of 4 diodes connected in the form of a bridge.



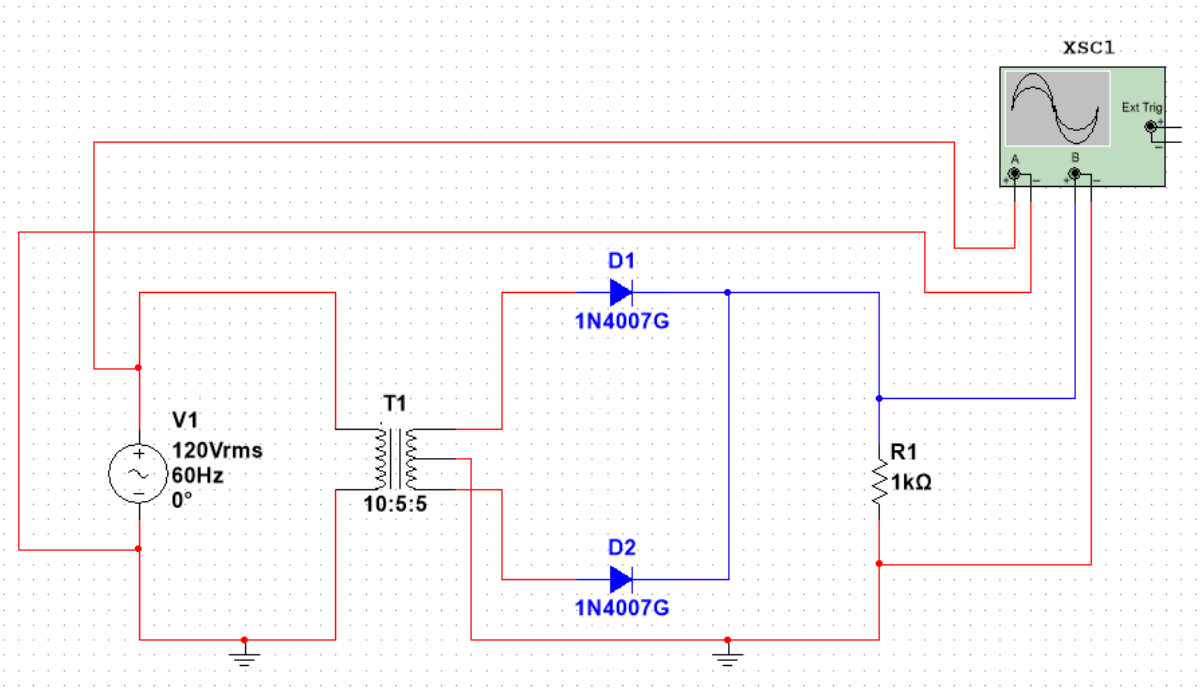
SIMULATION RESULTS:

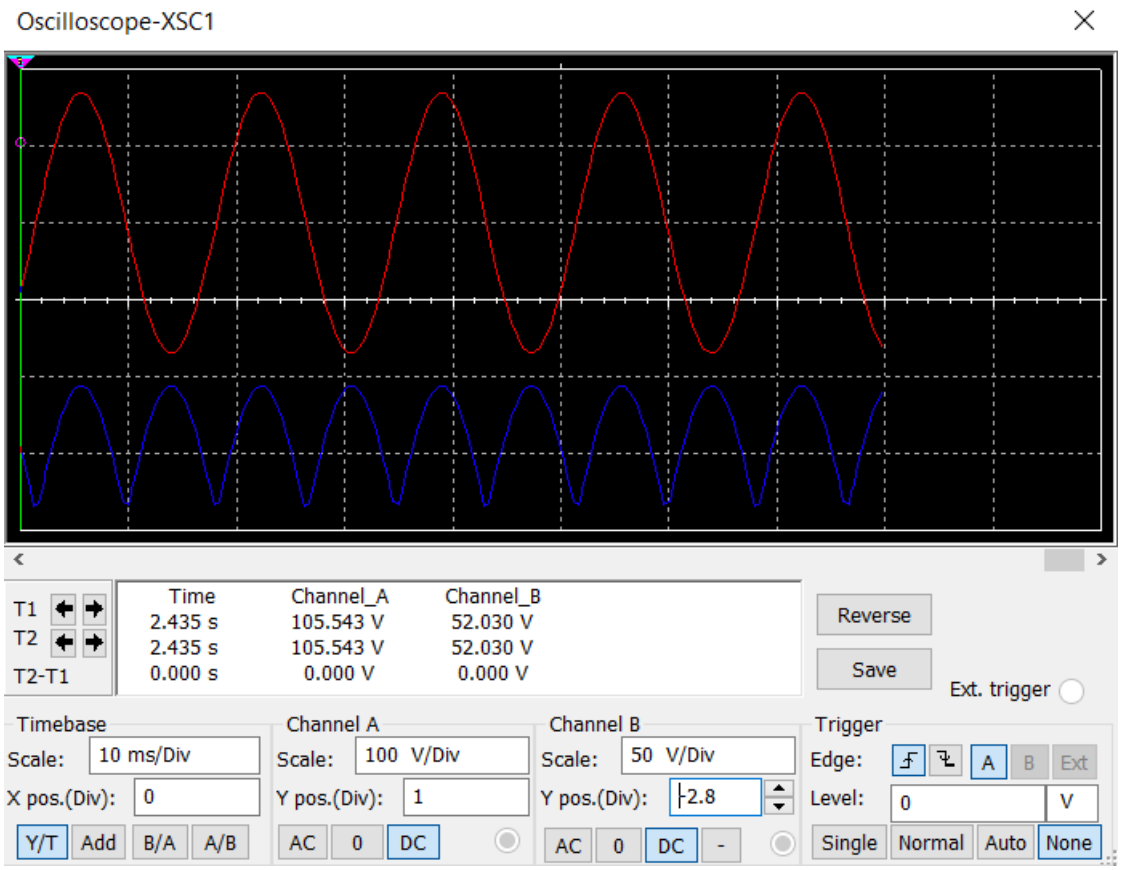
Half Wave Rectifier:



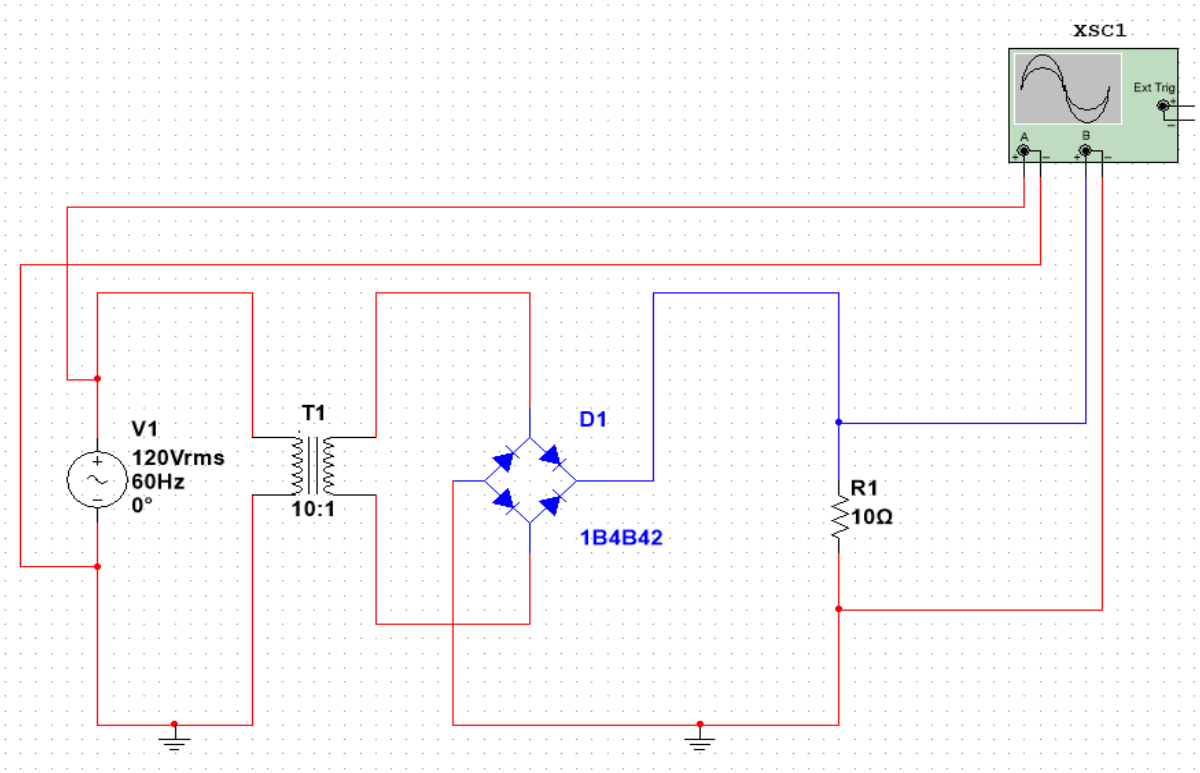


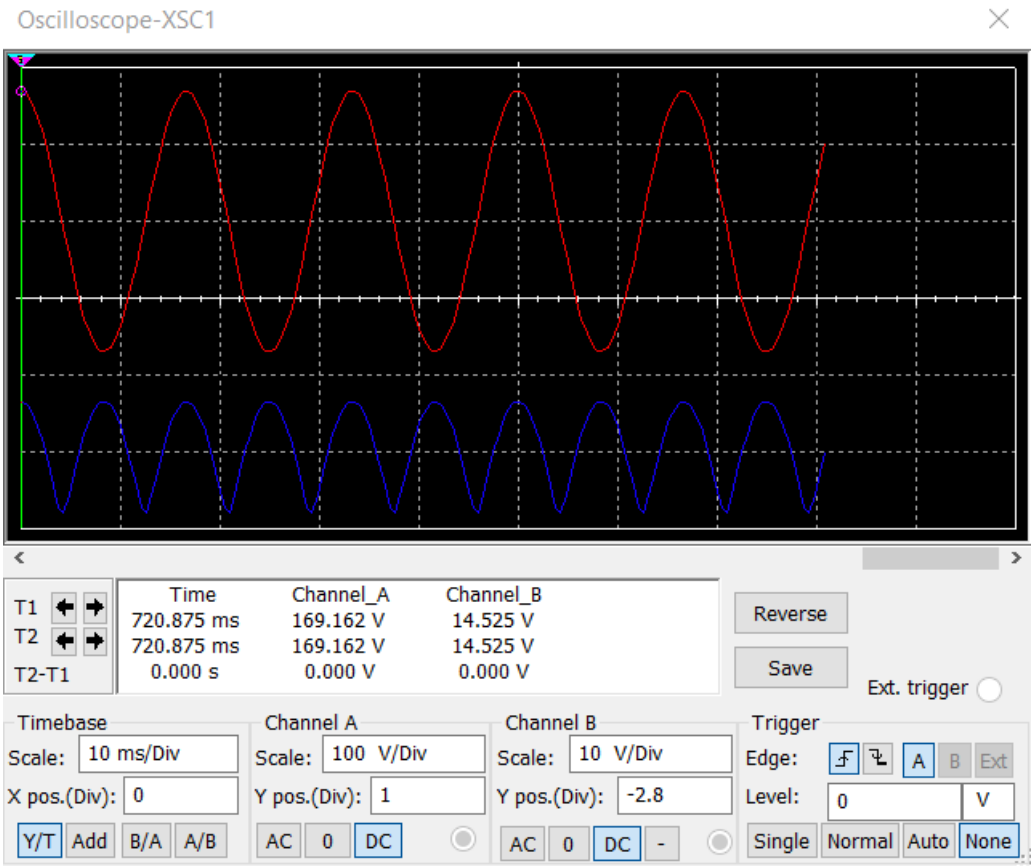
Full Wave Centre Tapped Rectifier:





Full Wave Bridge Rectifier:





ASSIGNMENT QUESTIONS:

Q1. To model, design and simulate a series RLC circuit. Show the simulation, waveform and take printout of the simulation circuit and waveform.

Q2. Describe the working operation of half wave, center tapped and bridge rectifier along with waveform.